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EG&G ROCKY FLATS

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94-RF-08309

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RECOMMENDED CHANGES IN THE METHODOLOGY AND IMPLEMENTATION OF ECOLOGICAL RISK ASSESSMENTS - SGS-431-94

Action: Recommend guidance

EG&G recommends a change in the methodology for, and the implementation of, the Ecological Risk Assessments (ERA) (a.k.a. Environmental Evaluation (EE) section of the Baseline Risk Assessment (BRA) to the Resource Conservation and Recovery Act (RCRA) Facilities Investigation/Remedial Investigation (RFI/RI) Reports under the Rocky Flats Plant (RFP) Interagency Agreement (IAG)). The recommended changes are in accord with recent U.S. Environmental Protection Agency (EPA) and the Department of Energy (DOE) guidance and the review comments for the Operable Unit (OU) 1 BRA ERA referred to as the OU-1 Ecological Evaluation.

Background

The IAG schedule was developed to make a rapid assessment of the nature and extent of contaminants at Rocky Flats Environmental Technology Site (RFETS) and the human health and ecological effects of contaminant releases in order to protect human health and the environment from any immediate dangers related to past plant activities and begin the process of investigating the need for remediation as directed under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). To date, no demonstrable ecological effects associated with past contaminant releases at RFETS have been found.

In response to initial concerns, the IAG set in motion an ERA program that, by design, had technical flaws. A recommendation is now set forth to modify the ERA methodology in order to implement recent EPA and DOE guidance and produce more technically defensible program products. A major goal of this proposed approach is to avoid impacting IAG milestones. Milestones may be missed due to schedule problems resulting in late deliverables or to the rejection of delivered products deemed unacceptable by the Regulatory Agencies.

The design of the IAG did not consider the technical requirements of ERA's. As a result, future products of the ERA program, as currently configured, may be difficult to defend on a scientific basis. Procedural problems associated with implementing the ERA program have resulted in non-compliance with the requirements of the IAG. For example, while work plans were Regulatory Agency approved, the specific field sampling plans for several OUs were not pre-approved by the Regulatory Agencies. In some cases, season-dependent field work had to be initiated before plans could be developed, transmitted, and reviewed by the Regulatory Agencies.

In other cases field sampling plans were transmitted to the Regulatory Agencies by DOE in advance of field work but DOE did not request approval. As a result, should the Regulatory Agencies decide that ERA products are not satisfactory, they can cite non-compliance with the IAG.

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Numerous briefings have been held between EG&G and DOE RFETS staff. Several options were evaluated and one option was selected and is recommended here for transmittal to the EPA and the Colorado Department of Public Health and Environment (CDPH&E) for their review and approval. While providing a technically more defensible program, this recommendation could also result in a significant overall cost savings and better support the comprehensive (site-wide) risk assessment.

Recommendation

As part of EG&G's work to improve the ERA at RFETS and to respond to a DOE request for a written methodology, EG&G recommends the following for consideration by DOE RFETS and transmittal to the Regulatory Agencies for approval:

- A draft of the ERA methodology will be provided to DOE RFETS for transmittal to the Regulatory Agencies for formal approval. The methodology shall include a description of the implementation of the EPA 1992 Guidance Methodology at RFETS. While the agencies, in their review of OU-1's EE, requested that this guidance be implemented; they have never approved its use in place of the methodology and reporting format outlined in the approved OU EE work plans.
- Following DOE 1993 guidance for proactive and holistic ERAs, the revised ERA methodology includes a proposal that ecological risk assessments be done at ecologically sensible scales. Instead of doing ERAs for each OU they should be evaluated as:
 - 1) Industrial Area OU's (IAOU)
 - 2) Woman Creek Watershed: OUs 1, part of 2, part of 11, and 5
 - 3) Walnut Creek Watershed: OUs 4, 6, 7, part of 2 and 11
 - 4) Offsite Areas: OU-3

This results in the production of four EEs instead of nine. It should be possible to reorganize the EEs and still follow current schedules (with modifications as required to insure technical adequacy).

- Approval from the Regulatory Agencies is needed to uncouple the EE portion of the BRA from the scheduled deliverables in the Remedial Investigation (RI) report for OU-2. Any information, such as the ecologically relevant contaminants of concern (COCs), which are required to initiate the Feasibility Study (FS) can be produced in a Technical Memorandum in order to avoid delays to IAG milestones. The ecological evaluations of OU-5 and OU-6 will include the ecological risks associated with the corresponding portions of OU-2 in each watershed. (We expect Agency concurrence with this proposal since grouping OUs by watershed helps to implement recommendations made by the Agencies during the review of the OU-1 EE.)
- Other schedule modifications may be needed or the EE portion of the BRA may need to be uncoupled from the RI reports for OU-5 and OU-6 and substituted for, as appropriate, with Technical Memoranda (the delay caused by the Agency stop work order related to the Human Health Risk Assessments caused the OUs RI reports to be put on a similar schedule). The original schedules were designed to have the upstream OU data available in advance of the assessments for the downstream OU's.
- Accelerated closure of OU-11 can be accomplished with an abbreviated EE dealing with OU-11 boundary issues and other downstream ecological risks evaluated in the OU-5 and OU-6 EEs. This will allow OU-11 to produce the required EE in a timely fashion.

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If you have any questions, please contact E. C. Mast of my staff at extension 8589, or Frank Vertucci, Ecology and Watershed Management, extension 3427.


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